



ICYNENE INC.

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6747 Campobello Road, Mississauga, Ontario, L5N 2L7, Canada
Tel: 905-363-4040 • Toll Free: 800-758-7325 • Fax: 905-363-0102

Chris Gekas
California Energy Commission
1516 Ninth Street, MS 25
Sacramento, CA.
95814-5512

Re: 2008 Building Energy Efficiency Standards [comments]

I would like to address three issues, two regarding Residential Distribution System Leakage and one regarding Fan Watt Draw and Airflow.

Under Residential distribution system leakage and the burying of ducts by loose fill insulations, we would like to see Foam Plastics included in this acceptance. Foam has; over the years, undergone numerous tests and has been found to seal ducts safely and efficiently, the air impermeance of foam is a perfect compliment to reduce the air loss through duct systems by preventing leakage and thereby increasing the energy efficiency. R-value alone does not insure air loss through leaks but by applying a layer of foam to the outside surface of the ducts it will virtually stop any air loss through system leaks. This method of sealing ducts has recently been accepted by the International residential Code.

Again under the Residential distribution system leakage we would like to introduce the Unvented Attic Assembly as the most effective way to insulate an attic. The primary benefit of having the insulation and air barrier above the attic floor (sprayed in place on the underside of the roof deck) is that the ducts and/or HVAC equipment in the attic are not delivering cooled air through a hot summer attic and heated air through a cold winter attic. Another benefit is to eliminate the attic vents that sometimes allows moisture to condense inside the attic, admit rain during extreme weather and possibly admit sparks in fires. Because this space is inside the building's thermal envelope, the traditional attic ventilation is not required. This unvented attic assembly is in the 2006 version of the International Residential Code as submitted by the Department of Energy, and it has recently been revised (language clarification) for inclusion in the upcoming IRC Supplement.

Under Fan watt draw and airflow we would like to offer our comment on the penalty for homes with tight air infiltration. The energy savings accomplished by using spray foam insulation are significant and although mechanical ventilation is required due to the low Air Changes per Hour (ACH), the energy used is very little. Building Science Corporation have calculated; and we agree, the cost of a 2400 sq. ft. home with an unvented attic equates to an added cost of approximately \$40. Per year to have a fan on 24/7. Calculations are as follows:

The Icynene Insulation System®

House at 2400 sq. ft. including unvented attic 30' x 40' per floor x 10' ceiling = 30,000 cubic feet.

At .35 ACH = 30,000 divided by .35 = 10,500 ft³

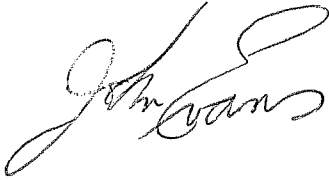
Divided by 60 to get in minutes = 175 Cubic feet per minute

This equates to 32.5 watts x 24 hrs. X 365 days = 285 KW hours per year

@ an average of 15 cents per kWh = \$40.00 per year

We would like to thank you for the opportunity to submit these proposals and look forward to discussing them with you in person, please feel free to contact me at your convenience.

Sincerely,

A handwritten signature in cursive script, appearing to read "John Evans".

John Evans
Codes and Standards Manager